

CONTENTS OF VOLUME 16

NUMBER 1

R. FAVARA, F. GRASSA, S. INGUAGGIATO and M. VALENZA: Hydrogeochemistry and stable isotopes of thermal springs: earthquake-related chemical changes along Belice Fault (Western Sicily).....	1
F.R. SIEGEL, J.J. GALASSO and J.H. KRAVITZ: Geochemistry of thirteen Voronin Trough cores, Kara Sea, European Arctic: Hg and As contaminants at a 1965 timeline.....	19
A.T. MARTEL, M.R. GIBLING and M. NGUYEN: Brines in the Carboniferous Sydney Coalfield, Atlantic Canada.....	35
M. VOLTAGGIO, G.A. DI LISA and S. VOLTAGGIO: U-series disequilibrium study on a gaseous discharge area (Solfiorata of Pomezia, Alban Hills, Italy): implications for volcanic and geochemical risk	57
A.L. HERCZEG, A.K. SMITH and J.C. DIGHTON: A 120 year record of changes in nitrogen and carbon cycling in Lake Alexandrina, South Australia: C:N, $\delta^{15}\text{N}$ and $\delta^{13}\text{C}$ in sediments.....	73
P. JACQUIER, P. MEIER and J. LY: Adsorption of radioelements on mixtures of minerals — experimental study.....	85
W.-L. JENG and C.-A. HUH: Comparative study of sterols in shelf and slope sediments off north-eastern Taiwan.....	95
N.C. STURCHIO, J.L. BANNER, C.M. BINZ, L.B. HERATY and M. MUSGROVE: Radium geochemistry of ground waters in Paleozoic carbonate aquifers, midcontinent, USA.....	109
A.-M. LAHDENPERÄ, P. TAMMINEN and T. TARVAINEN: Relationships between geochemistry of basal till and chemistry of surface soil at forested sites in Finland.....	123

NUMBER 2

P. DE CARITAT, C. REIMANN, I. BOGATYREV, V. CHEKUSHIN, T.E. FINNE, J.H. HALLERAKER, G. KASHULINA, H. NISKAVAARA, V. PAVLOV and M. ÄYRÄS: Regional distribution of Al, B, Ba, Ca, K, La, Mg, Mn, Na, P, Rb, Si, Sr, Th, U and Y in terrestrial moss within a 188,000 km ² area of the central Barents region: influence of geology, seaspray and human activity.....	137
L. MERCURY, P. VIEILLARD and Y. TARDY: Thermodynamics of ice polymorphs and 'ice-like' water in hydrates and hydroxides.....	161
J. ROUTH, E.L. GROSSMAN, G.A. ULRICH and J.M. SUFLITA: Volatile organic acids and microbial processes in the Yegua formation, east-central Texas	183
J.E. ANDREWS, A.M. GREENAWAY, P.F. DENNIS and D.A. BARNES-LESLIE: Isotopic effects on inorganic carbon in a tropical river caused by caustic discharges from bauxite processing	197
M.E. KETTERER, J.H. LOWRY, J. SIMON JR, K. HUMPHRIES and M.P. NOVOTNAK: Lead isotopic and chalcophile element compositions in the environment near a zinc smelting—secondary zinc recovery facility, Palmerton, Pennsylvania, USA.....	207

P.L. VERPLANCK, R.C. ANTWEILER, D.K. NORDSTROM and H.E. TAYLOR: Standard reference water samples for rare earth element determinations	231
J. CHIARENZELLI, L. ASPLER, C. DUNN, B. COUSENS, D. OZARKO and K. POWIS: Multi-element and rare earth element composition of lichens, mosses, and vascular plants from the Central Barrenlands, Nunavut, Canada	245

NUMBER 3

M. HOBZOVÁ, P. JAKEŠ and M. MIHALJEVIČ: Major element geochemistry of recent sediments from the Fláje basin (Krušné hory-Erzgebirge, Czech Republic)	271
R.W. GERLACH, M.S. GUSTIN and J.M. VAN EMON: On-site mercury analysis of soil at hazardous waste sites: by immunoassay and ASV	281
Y. MAHARA, T. IGARASHI, T. HASEGAWA, K. MIYAKAWA, Y. TANAKA and K. KIHO: Dynamic changes in hydrogeochemical conditions caused by tunnel excavation at the Aspo Hard Rock Laboratory (HRL), Sweden.....	291
M.E. WIESER, S.S. IYER, H.R. KROUSE and M.I. CANTAGALLO: Variations in the boron isotope composition of <i>Coffea arabica</i> beans	317
F.T. AKA, M. KUSAKABE, K. NAGAO and G. TANYILEKE: Noble gas isotopic compositions and water/gas chemistry of soda springs from the islands of Bioko, São Tomé and Annobon, along with Cameroon Volcanic Line, West Africa	323
R. CHANDRAJITH, C.B. DISSANAYAKE and H.J. TOBSCHALL: Application of multi-element relationships in stream sediments to mineral exploration: a case study of Walawe Ganga Basin, Sri Lanka	339
M. STEINMANN, P. STILLE, K. MENGEL and B. KIEFEL: Trace element and isotopic evidence for REE migration and fractionation in salts next to a basalt dyke	351
A. MÜLLER: Geochemical expressions of anoxic conditions in Nordåsvannet, a land-locked fjord in western Norway	363
A. BECHTEL, A.M. GHAZI, W.C. ELLIOTT and S. OSZCZEPALSKI: The occurrences of the rare earth elements and the platinum group elements in relation to base metal zoning in the vicinity of Rote Fäule in the Kupferschiefer of Poland.....	375
M. ÅSTRÖM: The effect of acid soil leaching on trace element abundance in a medium-sized stream, W. Finland.....	387

NUMBER 4

F.J. HUERTAS, E. CABALLERO, C. JIMÉNEZ DE CISNEROS, F. HUERTAS and J. LINARES: Kinetics of montmorillonite dissolution in granitic solutions	397
ZHU BING-QUAN, CHEN YU-WEI and PENG JIAN-HUA: Lead isotope geochemistry of the urban environment in the Pearl River Delta	409

J.R. HULSTON, D.R. HILTON and I.R. KAPLAN: Helium and carbon isotope systematics of natural gases from Taranaki Basin, New Zealand	419
J. VESELÝ, V. MAJER, J. KUČERA and V. HAVRÁNEK: Solid-water partitioning of elements in Czech freshwaters	437
S.C. GEORGE, T.E. RUBLE, A. DUTKIEWICZ and P.J. EADINGTON: Assessing the maturity of oil trapped in fluid inclusions using molecular geochemistry data and visually-determined fluorescence colours	451
S.S. DOGRAMACI, A.L. HERCZEG, S.L. SCHIFF and Y. BONE: Controls on $\delta^{34}\text{S}$ and $\delta^{18}\text{O}$ of dissolved sulfate in aquifers of the Murray Basin, Australia and their use as indicators of flow processes.....	475

NUMBER 5

R. CIDU, C. BIAGINI, L. FANFANI, G. LA RUFFA and I. MARRAS: Mine closure at Monteponi (Italy): effect of the cessation of dewatering on the quality of shallow groundwater	489
P.J. SWEDLUND and J.G. WEBSTER: Cu and Zn ternary surface complex formation with SO_4 on ferrihydrite and schwertmannite	503
F. GÉRARD, J.-P. BOUDOT and J. RANGER: Consideration on the occurrence of the Al_{13} polycation in natural soil solutions and surface waters	513
Y. WANG and E.J. REARDON: Activation and regeneration of a soil sorbent for defluoridation of drinking water.....	531
S. COVELLI, J. FAGANELI, M. HORVAT and A. BRAMBATI: Mercury contamination of coastal sediments as the result of long-term cinnabar mining activity (Gulf of Trieste, northern Adriatic sea).....	541
J.-M.R. GÉNIN, P. REFAIT, G. BOURRIÉ, M. ABDELMOULA and F. TROLARD: Structure and stability of the Fe(II)-Fe(III) green rust "fougerite" mineral and its potential for reducing pollutants in soil solutions.....	559

NUMBER 6

D.G. LUMSDON, J.C.L. MEEUSSEN, E. PATERSON, L.M. GARDEN and P. ANDERSON: Use of solid phase characterisation and chemical modelling for assessing the behaviour of arsenic in contaminated soils	571
H. PAUWELS, P. LACHASSAGNE, P. BORDENAVE, J.-C. FOUCHER and A. MARTELAT: Temporal variability of nitrate concentration in a schist aquifer and transfer to surface waters	583
S. HILLIER, K. SUZUKI and J. COTTER-HOWELLS: Quantitative determination of cerussite (lead carbonate) by X-ray powder diffraction and inferences for lead speciation and transport in stream sediments from a former lead mining area in Scotland	597

K. ZIEGLER, M.L. COLEMAN and R.J. HOWARTH: Palaeohydrodynamics of fluids in the Brent Group (Oseberg Field, Norwegian North Sea) from chemical and isotopic compositions of formation waters.....	609
S. PASTORELLI, L. MARINI and J. HUNZIKER: Chemistry, isotope values (δD , $\delta^{18}O$, $\delta^{34}S_{SO_4}$) and temperatures of the water inflows in two Gotthard tunnels, Swiss Alps	633
D.J. BUNKER, J.T. SMITH, F.R. LIVENS and J. HILTON: Kinetics of metal ion sorption on lake sediments — approaches to the analysis of experimental data.....	651

NUMBERS 7/8

Reviews

T.H. CHRISTENSEN, P. KJELDSSEN, P.L. BJERG, D.L. JENSEN, J.B. CHRISTENSEN, A. BAUN, H.-J. ALBRECHTSEN and G. HERON: Biogeochemistry of landfill leachate plumes.....	659
M. HOCH: Organotin compounds in the environment — an overview	719

Regular Papers

M.C. HIDALGO and J. CRUZ-SANJULIÁN: Groundwater composition, hydrochemical evolution and mass transfer in a regional detrital aquifer (Baza basin, southern Spain).....	745
C. REIMANN, G. KASHULINA, P. DE CARITAT and H. NISKAVAARA: Multi-element, multi-medium regional geochemistry in the European Arctic: element concentration, variation and correlation.....	759
G.A. VAN DEN BERG, S.E.J. BUYKX, M.A.G.T. VAN DEN HOOP, L.M. VAN DER HEIJDT and J.J.G. ZWOLSMAN: Vertical profiles of trace metals and acid-volatile sulphide in a dynamic sedimentary environment: Lake Ketel, The Netherlands	781
W.E. HALTER and H.-R. PFEIFER: Arsenic(V) adsorption onto α -Al ₂ O ₃ between 25 and 70°C.....	793
R. CRUZ, V. BERTRAND, M. MONROY and I. GONZÁLEZ: Effect of sulfide impurities on the reactivity of pyrite and pyritic concentrates: a multi-tool approach	803
J.D. MATHER and N.C. PORTEOUS: The geochemistry of boron and its isotopes in groundwaters from marine and non-marine sandstone aquifers.....	821
M. VOLTAGGIO, M. PALMISANO, A. RAPONI and S. VOLTAGGIO: Implantation of recoiling radio-nuclides of U and Th radioactive series applied to estimation of surficial erosion of CaCO ₃ materials	835
T. IWATSUKI, S. XU, Y. MIZUTANI, K. HAMA, H. SAEGUSA and K. NAKANO: Carbon-14 study of groundwater in the sedimentary rocks at the Tono study site, central Japan	849
S. GIN, P. JOLLIVET, J.P. MESTRE, M. JULLIEN and C. POZO: French SON 68 nuclear glass alteration mechanisms on contact with clay media.....	861
R. FAVARA, S. GIAMMANCO, S. INGUAGGIATO and G. PECORAINO: Preliminary estimate of CO ₂ output from Pantelleria Island volcano (Sicily, Italy): evidence of active mantle degassing	883
M.J. KOTARBA and D.D. RICE: Composition and origin of coalbed gases in the Lower Silesian basin, southwest Poland.....	895
A.I. KARAYIGIT, T. ONACAK, R.A. GAYER and S. GOLDSMITH: Mineralogy and geochemistry of feed coals and their combustion residues from the Cayirhan power plant, Ankara, Turkey.....	911

Volume Contents

A.C. BATISTA, A.J. SOUSA, M.J. BATISTA and L. VIEGAS: Factorial kriging with external drift: a case study on the Penedono Region, Portugal	921
D.C. BAIN, M.J. ROE, D.M.L. DUTHIE and C.M. THOMSON: The influence of mineralogy on weathering rates and processes in an acid-sensitive granitic catchment	931
T.D. SMALL, L.A. WARREN and F.G. FERRIS: Influence of ionic strength on strontium sorption to bacteria, Fe(III) oxide, and composite bacteria-Fe(III) oxide surfaces	939
D.C. KEITH, D.D. RUNNELLS, K.J. ESPOSITO, J.A. CHERMAK, D.B. LEVY, S.R. HANNULA, M. WATTS and L. HALL: Geochemical models of the impact of acidic groundwater and evaporative sulfate salts on Boulder Creek at Iron Mountain, California	947
C. REIMANN and V. MELEZHIK : Metallogenic provinces, geochemical provinces and regional geology — what causes large-scale patterns in low density geochemical maps of the C-horizon of podzols in Arctic Europe?	963
A. AIUPPA, P. BONFANTI, L. BRUSCA, W. D'ALESSANDRO, C. FEDERICO and F. PARELLO: Evaluation of the environmental impact of volcanic emissions from the chemistry of rainwater: Mount Etna area (Sicily)	985
P. ABRAHAMS: Book Review: Soil Resources and the Environment	1001

NUMBERS 9/10

B. MAYER, J. PRIETZEL and H.R. KROUSE: The influence of sulfur deposition rates on sulfate retention patterns and mechanisms in aerated forest soils	1003
N. JENDRZEJEWSKI, H.G.M. EGGENKAMP and M.L. COLEMAN: Characterisation of chlorinated hydrocarbons from chlorine and carbon isotopic compositions: scope of application to environmental problems	1021
L. ZHENG, S. WANG, Y. LIAO and Z. FENG: CO ₂ gas pools in Jiyang sag, China	1033
J.-Y. YU and B. HEO: Dilution and removal of dissolved metals from acid mine drainage along Imgok Creek, Korea	1041
C.-F. YOU and J.M. GIESKES : Hydrothermal alteration of hemi-pelagic sediments: experimental evaluation of geochemical processes in shallow subduction zones	1055
P.J. PRETORIUS and P.W. LINDER: The adsorption characteristics of δ -manganese dioxide: a collection of diffuse double layer constants for the adsorption of H ⁺ , Cu ²⁺ , Ni ²⁺ , Zn ²⁺ , Cd ²⁺ and Pb ²⁺	1067
W. KLOPPMANN, J.M. MATRAY and J.F. ARANYOSSY: Contamination of deep formation waters by drilling fluids: correction of the chemical and isotopic composition and evaluation of errors	1083
J. STIMSON, S. FRAPE, R. DRIMMIE and D. RUDOLPH: Isotopic and geochemical evidence of regional-scale anisotropy and interconnectivity of an alluvial fan system, Cochabamba Valley, Bolivia	1097
K.G. KNAUSS, M.J. DIBLEY, W.L. BOURCIER and H.F. SHAW: Ti(IV) hydrolysis constants derived from rutile solubility measurements made from 100 to 300°C	1115
E.G. SØGAARD, R. ARUNA, J. ABRAHAM-PESKIR and C. BENDER KOCH: Conditions for biological precipitation of iron by <i>Gallionella ferruginea</i> in a slightly polluted ground water	1129

Volume Contents

F.C.F. DEPAULA and A.A. MOZETO : Biogeochemical evolution of trace elements in a pristine watershed in the Brazilian southeastern coastal region	1139
M. LÓPEZ-CHICANO, J.C. CERÓN , A. VALLEJOS and A. PULIDO-BOSCH: Geochemistry of thermal springs, Alhama de Granada (southern Spain)	1153
M.D. BUATIER, S. SOBANSKA and F. ELSASS: TEM-EDX investigation on Zn- and Pb-contaminated soils	1165
M. LÓPEZ-CHICANO, M. BOUAMAMA, A. VALLEJOS and A. PULIDO-BOSCH: Factors which determine the hydrogeochemical behaviour of karstic springs. A case study from the Betic Cordilleras, Spain ...	1179
C. GEE, M.H. RAMSEY and I. THORNTON: Buffering from secondary minerals as a migration limiting factor in lead polluted soils at historical smelting sites.....	1193
Z. GUODONG, B. TAKANO, A. KUNO and M. MATSUO: Iron speciation in modern sediment from Erhai Lake, southwestern China. Redox conditions in an ancient environment.....	1201
P. HOLLINGS, M.J. HENDRY, R.V. NICHOLSON and R.A. KIRKLAND: Quantification of oxygen consumption and sulphate release rates for waste rock piles using kinetic cells: Cluff lake uranium mine, northern Saskatchewan, Canada	1215
N.D. ROSENBERG, G.E. GDOWSKI and K.G. KNAUSS: Evaporative chemical evolution of natural waters at Yucca Mountain, Nevada	1231
Y. WANG and E.J. REARDON: A siderite/limestone reactor to remove arsenic and cadmium from wastewaters	1241
C. ZHANG and L. WANG: Multi-element geochemistry of sediments from the Pearl River system, China	1251
S. BOULT, R. JUGDAOHSINGH, K. WHITE, B. SMITH and J. POWELL: Evidence that polysaccharide and humic and fulvic acids are co-extracted during analysis but have different roles in the chemistry of natural waters	1261
C. CAI, S.G. FRANKS and P. AAGAARD: Origin and migration of brines from Paleozoic strata in Central Tarim, China: constraints from $^{87}\text{Sr}/^{86}\text{Sr}$, δD , $\delta^{18}\text{O}$ and water chemistry.....	1269
Y.K. KHARAKA: Book Review: Introduction to Ground Water Geochemistry.....	1285
N.J.G. PEARCE: Book Review: Santorini Volcano, Geological Society Memoir Number 19	1286

NUMBERS 11/12

Environmental Geochemistry in the Asia Pacific Region Selected Papers from the 1st Symposium, Hong Kong, 2-4 December 1998

Editors: Ron Fuge, Xiangdong Li and Chi-sun Poon

X. LI: Preface	1289
J. PLANT, D. SMITH, B. SMITH and L. WILLIAMS: Environmental geochemistry at the global scale	1291
XIE XUEJING and CHENG HANGXIN: Global geochemical mapping and its implementation in the Asia-Pacific region	1309

Volume Contents

A. FERREIRA, M.M. INÁCIO, P. MORGADO, M.J. BATISTA, L. FERREIRA, V. PEREIRA and M.S. PINTO: Low-density geochemical mapping in Portugal	1323
J. ZHU and B. ZHENG: Distribution of selenium in a mini-landscape of Yutangba, Enshi, Hubei Province, China	1333
Z. WANG and Y. GAO: Biogeochemical cycling of selenium in Chinese environments	1345
Z. DING, B. ZHENG, J. LONG, H.E. BELKIN, R.B. FINKELMAN, C. CHEN, D. ZHOU and Y. ZHOU: Geological and geochemical characteristics of high arsenic coals from endemic arsenosis areas in southwestern Guizhou Province, China.....	1353
X. LI, C.-S. POON and P.S. LIU: Heavy metal contamination of urban soils and street dusts in Hong Kong	1361
M.C. JUNG: Heavy metal contamination of soils and waters in and around the Imcheon Au-Ag mine, Korea	1369
C.G. LEE, H.-T. CHON and M.C. JUNG: Heavy metal contamination in the vicinity of the Daduk Au-Ag-Pb-Zn mine in Korea	1377
J.-Y. KIM and H.-T. CHON: Pollution of a water course impacted by acid mine drainage in the Imgok creek of the Gangreung coal field, Korea	1387
H.M. CHEN, C.R. ZHENG, C. TU and D.M. ZHOU: Studies on loading capacity of agricultural soils for heavy metals and its applications in China.....	1397
J.P. OBBARD: Ecotoxicological assessment of heavy metals in sewage sludge amended soils	1405
D. DONG, Z. XIE and Y. DU: The bioavailability of Al in soils to tea plants	1413
IN. S. KIM, J.-S. PARK and K.-W. KIM: Enhanced biodegradation of polycyclic aromatic hydrocarbons using nonionic surfactants in soil slurry.....	1419
MAI BIXIAN, FU JIAMO, ZHANG GAN, LIN ZHENG, MIN YUSHUN, SHENG GUOYING and WANG XINGMIN: Polycyclic aromatic hydrocarbons in sediments from the Pearl river and estuary, China: spatial and temporal distribution and sources	1429
X.M. WANG, S.C. LEE, G.Y. SHENG, L.Y. CHAN, J.M. FU, X.D. LI, Y.S. MIN and C.Y. CHAN: Cyclic organosilicon compounds in ambient air in Guangzhou, Macau and Nanhai, Pearl River Delta	1447
C.K. HWANG, J.-M. CHA, K.-W. KIM and H.-K. LEE: Application of multivariate statistical analysis and a geographic information system to trace element contamination in the Chungnam Coal Mine area, Korea	1455

NUMBER 13

F. WORRALL and D.G. PEARSON: The development of acidic groundwaters in coal-bearing strata: Part I. Rare earth element fingerprinting.....	1465
B. HITCHON, E.H. PERKINS and W.D. GUNTER: Recovery of trace metals in formation waters using acid gases from natural gas	1481

Volume Contents

M.O. BARNETT, R.R. TURNER and P.C. SINGER: Oxidative dissolution of metacinnabar (β -HgS) by dissolved oxygen	1499
D.R. OROS and B.R.T. SIMONEIT: Identification and emission factors of molecular tracers in organic aerosols from biomass burning. Part 1. Temperate climate conifers	1513
D.R. OROS and B.R.T. SIMONEIT: Identification and emission factors of molecular tracers in organic aerosols from biomass burning. Part 2. Deciduous trees.....	1545

NUMBER 14

M.B. PARSONS, D.K. BIRD, M.T. EINAUDI and C.N. ALPERS: Geochemical and mineralogical controls on trace element release from the Penn Mine base-metal slag dump, California	1567
P. BIRKLE, B. MERKEL, E. PORTUGAL and I.S. TORRES-ALVARADO: The origin of reservoir fluids in the geothermal field of Los Azufres, Mexico — isotopical and hydrological indications	1595
N. AMELLAL, J.-M. PORTAL and J. BERTHELIN: Effect of soil structure on the bioavailability of polycyclic aromatic hydrocarbons within aggregates of a contaminated soil.....	1611
R.H.C. EMMERSON, M.D. SCRIMSHAW, J.W. BIRKETT and J.N. LESTER: Solid phase partitioning of metals in Managed Realignment soils: laboratory studies in timed soil sea-water batch mixtures	1621
R. CRUZ, B.A. MÉNDEZ, M. MONROY and I. GONZÁLEZ: Cyclic voltammetry applied to evaluate reactivity in sulfide mining residues	1631
S.S. BRAKE, H.K. DANNELLY, K.A. CONNORS and S.T. HASIOTIS: Influence of water chemistry on the distribution of an acidophilic protozoan in an acid mine drainage system at the abandoned Green Valley coal mine, Indiana, USA	1641
N. LU and C.F.V. MASON: Sorption-desorption behavior of strontium-85 onto montmorillonite and silica colloids.....	1653

NUMBER 15

A.B. SULLIVAN and J.I. DREVER: Geochemistry of suspended particles in a mine-affected mountain stream	1663
J. DOMAGALSKI: Mercury and methylmercury in water and sediment of the Sacramento River Basin, California.....	1677
X. LI and I. THORNTON: Chemical partitioning of trace and major elements in soils contaminated by mining and smelting activities.....	1693
T. GOCHT, K.-M. MOLDENHAUER and W. PÜTTMANN: Historical record of polycyclic aromatic hydrocarbons (PAH) and heavy metals in floodplain sediments from the Rhine River (Hessisches Ried, Germany)	1707